AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A power converter, comprising:

an input port for receiving an input power source;

an output port for supplying current to a load;

at least one power transformer having a primary side coupled to said input port and a secondary side coupled to the output port;

a controller for regulating load current;

one or more controllable switching devices on the primary side of the power transformer operating under the control of the controller; and

at least one alternating energy source that isolates the at least one power transformer from ~~coupled to~~ said one or more controllable switching devices.

2. (original) The power converter of claim 1, wherein the energy supplied by said alternating energy source creates a condition to turn on the one or more controllable switching devices at a substantially zero voltage.

3. (original) The power converter of claim 1, wherein the energy supplied by said alternating energy source is dependent on at least one of load current and input power source changes.

4. (original) The power converter of claim 1, wherein the energy supplied by said alternating energy source is independent of current changes within the converter .

5. (original) The power converter of claim 1 further including at least one primary inductor for storing the energy supplied by said alternating energy source.

6. (original) The power converter of claim 5, wherein said at least one primary inductor comprises a single winding.

7. (original) A power converter as in claim 5, wherein said at least one primary inductor comprises a plurality of windings.
8. (original) The power converter of claim 1 further comprising at least one pair of diodes for coupling said alternating energy source to a primary inductor.

9. (original) The power converter of claim 1, wherein the control circuit periodically switches said one or more controllable switching devices.

10. (original) The power converter of claim 1, wherein the control circuit periodically switches said one or more controllable switching devices in response to at least one of load current and input power source changes.

11. (original) The power converter of claim 1, further including a full bridge comprising a first leg that includes a first pair of controllable switching devices and a second leg that includes a second pair of controllable switching devices.

12. (original) The power converter of claim 11, wherein the controller controls the operation of the first pair of controllable switching devices and the second pair of controllable switching devices based on a phase-shift caused by at least one of load current and input power source changes.

13. (original) The power converter of claim 11 further including a first primary inductor for storing energy required to create conditions for switching the first pair of controllable switching devices at substantially reduced voltage, and a second primary inductor for storing energy required to create conditions for turning on the second pair of controllable switching devices at substantially reduced voltage.

14. (original) The power converter of claim 1 further comprising a full-wave rectifier at the secondary side of the power transformer.

15. (original) The power converter of claim 1 further comprising a current doubler rectifier at the secondary side of the power transformer.

16. (original) The power converter of claim 1 further comprising a filter at the secondary side of the power transformer.

17. (original) The power converter of claim 8, wherein said alternating energy source comprises an auxiliary transformer having a first winding and a second winding.

18. (original) The power converter of claim 17, wherein said auxiliary transformer has a leakage inductance for storing the energy that creates the conditions for switching said one or more controllable switching devices at a substantially low voltage.

19. (original) The power converter of claim 17, wherein said first winding of said auxiliary transformer is coupled in series with an energy-storage capacitor; said series combination of said first winding of said auxiliary transformer and said energy-storage capacitor having a first and second terminal; said first terminal connected to a tap of said primary winding of said power transformer and said second terminal connected to a point with a constant potential.

20. (original) The power converter of claim 19, wherein the tap is the center tap of said primary winding of said power transformer.

21. (original) The power converter of claim 17, wherein said first winding of said auxiliary transformer is coupled in series with an energy-storage capacitor; said series combination of said first winding of said auxiliary transformer and said energy-storage capacitor having a first and second terminal; said first terminal coupled to a junction of said controllable switching devices and said second terminal connected to a point with a constant potential.

22. (original) A power converter as in Claim 17, wherein said second winding of said auxiliary transformer is coupled in series with a primary winding of said power transformer and a primary inductor that is used to store energy supplied by said alternating energy device.

23. (original) The power converter of claim 17, wherein a first diode of said pair of diodes periodically coupling said second winding of said auxiliary transformer to said primary inductor when the voltage across said second winding of said auxiliary transformer is positive; said second diode periodically coupling said second winding of said auxiliary transformer to said primary inductor when the voltage across said second winding of said auxiliary transformer is negative.

24. (currently amended) A power converter as in Claim <u>14</u> ~~12~~, wherein a combination of said second winding of said auxiliary transformer and said primary winding of said power transformer and said external inductor is coupled between said first and second bridge legs.

25. (original) The power converter of claim 1, wherein a plurality of power transformer are used for power transfer from said input port to said output port, each said power transformer comprising a primary winding and a secondary winding, wherein said primary windings of said power transformers connected in series.